OIPE 2800
a

ENTERED

Serial Number: __10/020,478__

CRF Processing Date: __1/7/2002__

Edited by: ____

Verified by: ____ (STIC sta[

#2

- [ ] Changed a file from non-ASCII to ASCII.

- [ ] Changed the margins in cases where the sequence text was "wrapped" down to the next line.

- [ ] Edited a format error in the Current Application Data section. specifically: ____

- [ ] Edited the Current Application Data section with the actual current number. The number inputted by the applicant was [ ] the prior application data; or [ ] other ____

- [ ] Added the mandatory heading and subheadings for "Current Application Data".

- [ ] Edited the "Number of Sequences" field. The applicant spelled out a number instead of using an integer.

- [ ] Changed the spelling of a mandatory field (the headings or subheadings). specifically: ____

- [ ] Corrected the SEQ ID NO when obviously incorrect. The sequence numbers that were edited were: ____

- [ ] Inserted or corrected a nucleic number at the end of a nucleic line. SEQ ID NO's edited: ____

- [ ] Corrected subheading placement. All responses must be on the same line as each subheading. If the applicant placed a response below the subheading, this was moved to its appropriate place.

- [ ] Inserted colons after headings/subheadings. Headings edited included: ____

- [x] Deleted (extra) invalid, headings used by an applicant. specifically: ____
  22207 in Seg.3

- [ ] Deleted: [ ] non-ASCII "garbage" at the beginning/end of files; [ ] secretary initials/filename at end of file; [ ] page numbers throughout text; [ ] other invalid text, such as ____

- [ ] Inserted mandatory headings. specifically: ____

- [ ] Corrected an obvious error in the response. specifically: ____

- [ ] Edited identifiers where upper case is used but lower case is required, or vice versa.

- [ ] Corrected an error in the Number of Sequences field. specifically: ____

- [ ] A "Hard Page Break" code was inserted by the applicant. All occurrences had to be deleted.

- [ ] Deleted *ending* stop codon in amino acid sequences and adjusted the "(A)Length:" field accordingly (error due to a PatentIn bug). Sequences corrected: ____

- [ ] Other: ____

Examiner: The above corrections must be communicated to the applicant in the first Office Action. DO NOT send a copy of this form.

3/1/95

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/020,478

DATE: 01/07/2002
TIME: 20:32:06

2.

Input Set : **A:\pto.txt**
Output Set: **N:\CRF3\01072002\J020478.raw**

```
 3 <110> APPLICANT: C. Frank Bennett
 4        Kenneth Dobie
 6 <120> TITLE OF INVENTION: ANTISENSE MODULATION OF B-CELL ASSOCIATED PROTEIN EXPRESSION
 8 <130> FILE REFERENCE: RTS-0303
C--> 10 <140> CURRENT APPLICATION NUMBER: US/10/020,478
C--> 10 <141> CURRENT FILING DATE: 2001-12-13
10 <160> NUMBER OF SEQ ID NOS: 88
13 <210> SEQ ID NO: 1
14 <211> LENGTH: 20
15 <212> TYPE: DNA
16 <213> ORGANISM: Artificial Sequence
18 <220> FEATURE:
20 <223> OTHER INFORMATION: Antisense Oligonucleotide
22 <400> SEQUENCE: 1                                               20
23 tccgtcatcg ctcctcaggg
26 <210> SEQ ID NO: 2
27 <211> LENGTH: 20
28 <212> TYPE: DNA
29 <213> ORGANISM: Artificial Sequence
31 <220> FEATURE:
33 <223> OTHER INFORMATION: Antisense Oligonucleotide
35 <400> SEQUENCE: 2                                               20
36 atgcattctg cccccaagga
39 <210> SEQ ID NO: 3
40 <211> LENGTH: 1416
41 <212> TYPE: DNA
42 <213> ORGANISM: Homo sapiens
44 <220> FEATURE:
45 <221> NAME/KEY: CDS
46 <222> LOCATION: (186)...(1085)
48 <400> SEQUENCE: 3
49 aagttcgggt ccgtagtggg ctaaggggga gggtttcaaa gggagcgcac ttccgctgcc    60
51 ctttctttcg ccagccttac gggcccgaac cctcgtgtga agggtgcagt acctaagccg   120
53 gagcggggta gaggcgggcc ggcacccccct tctgacctcc agtgccgccg gcctcaagat   180
55 cagac atg gcc cag aac ttg aag gac ttg gcg gga cgg ctg ccc gcc ggg   230
56       Met Ala Gln Asn Leu Lys Asp Leu Ala Gly Arg Leu Pro Ala Gly
57        1               5                  10                  15
59 ccc cgg ggc atg ggc acg gcc ctg aag ctg ttg ctg ggg gcc ggc gcc   278
60 Pro Arg Gly Met Gly Thr Ala Leu Lys Leu Leu Leu Gly Ala Gly Ala
61                  20                  25                  30
63 gtg gcc tac ggt gtg cgc gaa tct gtg ttc acc gtg gaa ggc ggg cac   326
64 Val Ala Tyr Gly Val Arg Glu Ser Val Phe Thr Val Glu Gly Gly His
65                  35                  40                  45
67 aga gcc atc ttc ttc aat cgg atc ggt gga gtg cag cag gac act atc   374
68 Arg Ala Ile Phe Phe Asn Arg Ile Gly Gly Val Gln Gln Asp Thr Ile
69          50                  55                  60
71 ctg gcc gag ggc ctt cac ttc agg atc cct tgg ttc cag tac ccc att   422
```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/020,478

DATE: 01/07/2002
TIME: 20:32:06

Input Set : A:\pto.txt
Output Set: N:\CRF3\01072002\J020478.raw

```
72 Leu Ala Glu Gly Leu His Phe Arg Ile Pro Trp Phe Gln Tyr Pro Ile
73     65                    70          75
75 atc tat gac att cgg gcc aga cct cga aaa atc tcc tcc cct aca ggc     470
76 Ile Tyr Asp Ile Arg Ala Arg Pro Arg Lys Ile Ser Ser Pro Thr Gly
77 80                    85              90                  95
79 tcc aaa gac cta cag atg gtg aat atc tcc ctg cga gtg ttg tct cga     518
80 Ser Lys Asp Leu Gln Met Val Asn Ile Ser Leu Arg Val Leu Ser Arg
81                 100                 105                 110
83 ccc aat gct cag gag ctt cct agc atg tac cag cgc cta ggg ctg gac     566
84 Pro Asn Ala Gln Glu Leu Pro Ser Met Tyr Gln Arg Leu Gly Leu Asp
85             115                 120                 125
87 tac gag gaa cga gtg ttg ccg tcc att gtc aac gag gtg ctc aag agt     614
88 Tyr Glu Glu Arg Val Leu Pro Ser Ile Val Asn Glu Val Leu Lys Ser
89             130                 135                 140
91 gtg gtg gcc aag ttc aat gcc tca cag ctg atc acc cag cgg gcc cag     662
92 Val Val Ala Lys Phe Asn Ala Ser Gln Leu Ile Thr Gln Arg Ala Gln
93         145                 150                 155
95 gta tcc ctg ttg atc cgc cgg gag ctg aca gag agg gcc aag gac ttc     710
96 Val Ser Leu Leu Ile Arg Arg Glu Leu Thr Glu Arg Ala Lys Asp Phe
97 160                 165                 170                 175
99 agc ctc atc ctg gat gat gtg gcc atc aca gag ctg agc ttt agc cga     758
100 Ser Leu Ile Leu Asp Asp Val Ala Ile Thr Glu Leu Ser Phe Ser Arg
101                 180                 185                 190
103 gag tac aca gct gct gta gaa gcc aaa caa gtg gcc cag cag gag gcc    806
104 Glu Tyr Thr Ala Ala Val Glu Ala Lys Gln Val Ala Gln Gln Glu Ala
105             195                 200                 205
107 cag cgg gcc caa ttc ttg gta gaa aaa gca aag cag gaa cag cgg cag    854
108 Gln Arg Ala Gln Phe Leu Val Glu Lys Ala Lys Gln Glu Gln Arg Gln
109         210                 215                 220
111 aaa att gtg cag gcc gag ggt gag gcc gag gct gcc aag atg ctt gga    902
112 Lys Ile Val Gln Ala Glu Gly Glu Ala Glu Ala Ala Lys Met Leu Gly
113     225                 230                 235
115 gaa gca ctg agc aag aac cct ggc tac atc aaa ctt cgc aag att cga    950
116 Glu Ala Leu Ser Lys Asn Pro Gly Tyr Ile Lys Leu Arg Lys Ile Arg
117 240                 245                 250                 255
119 gca gcc cag aat atc tcc aag acg atc gcc aca tca cag aat cgt atc    998
120 Ala Ala Gln Asn Ile Ser Lys Thr Ile Ala Thr Ser Gln Asn Arg Ile
121                 260                 265                 270
123 tat ctc aca gct gac aac ctt gtg ctg aac cta cag gat gaa agt ttc    1046
124 Tyr Leu Thr Ala Asp Asn Leu Val Leu Asn Leu Gln Asp Glu Ser Phe
125             275                 280                 285
127 acc agg gga agt gac agc ctc atc aag ggt aag aaa tga gcctagtcac    1095
128 Thr Arg Gly Ser Asp Ser Leu Ile Lys Gly Lys Lys
129     290                 295
131 caagaactcc accccagag gaagtggatc tgcttctcca gtttttgagg agccagccag    1155
133 gggtccagca cagccctacc ccgccccagt atcatgcgat ggtcccccac accggttccc    1215
135 tgaacccctc ttggattaag gaagactgaa gactagcccc ttttctggga aattactttc    1275
137 ctcctccctg tgttaactgg ggctgttggg gacagtgcgt gatttctcag tgatttccta    1335
139 cagtgttgtt ccctccctca aggctgggag gagataaaca ccaacccagg aattctcaat    1395
```

file:///C:\Crf3\Outhold\VsrJ020478.htm

1/7/02

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/020,478

DATE: 01/07/2002
TIME: 20:32:06

Input Set : A:\pto.txt
Output Set: N:\CRF3\01072002\J020478.raw

```
                                                                        1416
141 aaatttttat tacttaacct g
144 <210> SEQ ID NO: 4
145 <211> LENGTH: 21
146 <212> TYPE: DNA
147 <213> ORGANISM: Artificial Sequence
149 <220> FEATURE:
151 <223> OTHER INFORMATION: PCR Primer
153 <400> SEQUENCE: 4                                                     21
154 gcaagaaccc tggctacatc a
157 <210> SEQ ID NO: 5
158 <211> LENGTH: 20
159 <212> TYPE: DNA
160 <213> ORGANISM: Artificial Sequence
162 <220> FEATURE:
164 <223> OTHER INFORMATION: PCR Primer
166 <400> SEQUENCE: 5                                                     20
167 gtggcgatcg tcttggagat
170 <210> SEQ ID NO: 6
171 <211> LENGTH: 24
172 <212> TYPE: DNA
173 <213> ORGANISM: Artificial Sequence
175 <220> FEATURE:
177 <223> OTHER INFORMATION: PCR Probe
179 <400> SEQUENCE: 6                                                     24
180 acttcgcaag attcgagcag ccca
183 <210> SEQ ID NO: 7
184 <211> LENGTH: 19
185 <212> TYPE: DNA
186 <213> ORGANISM: Artificial Sequence
188 <220> FEATURE:
190 <223> OTHER INFORMATION: PCR Primer
192 <400> SEQUENCE: 7                                                     19
193 gaaggtgaag gtcggagtc
196 <210> SEQ ID NO: 8
197 <211> LENGTH: 20
198 <212> TYPE: DNA
199 <213> ORGANISM: Artificial Sequence
201 <220> FEATURE:
203 <223> OTHER INFORMATION: PCR Primer
205 <400> SEQUENCE: 8                                                     20
206 gaagatggtg atgggatttc
209 <210> SEQ ID NO: 9
210 <211> LENGTH: 20
211 <212> TYPE: DNA
212 <213> ORGANISM: Artificial Sequence
214 <220> FEATURE:
216 <223> OTHER INFORMATION: PCR Probe
218 <400> SEQUENCE: 9                                                     20
219 caagcttccc gttctcagcc
```

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/020,478

DATE: 01/07/2002
TIME: 20:32:07

Input Set : A:\pto.txt
Output Set: N:\CRF3\01072002\J020478.raw

```
222 <210> SEQ ID NO: 10
223 <211> LENGTH: 6000
224 <212> TYPE: DNA
225 <213> ORGANISM: Homo sapiens
227 <220> FEATURE:
229 <221> NAME/KEY: intron
230 <222> LOCATION: (576)...(711)
231 <223> OTHER INFORMATION: intron 1
```
W--> 233 `<221>` NAME/KEY: exon:intron junction
```
234 <222> LOCATION: (796)...(797)
235 <223> OTHER INFORMATION: exon 2:intron 2
```
W--> 237 `<221>` NAME/KEY: intron:exon junction
```
238 <222> LOCATION: (1414)...(1415)
239 <223> OTHER INFORMATION: intron 2:exon 3
```
W--> 241 `<221>` NAME/KEY: exon:intron junction
```
242 <222> LOCATION: (1494)...(1495)
243 <223> OTHER INFORMATION: exon 3:intron 3
245 <221> NAME/KEY: intron
246 <222> LOCATION: (1495)...(2396)
247 <223> OTHER INFORMATION: intron 3
249 <221> NAME/KEY: exon
250 <222> LOCATION: (3213)...(3316)
251 <223> OTHER INFORMATION: exon 6
```
W--> 253 `<221>` NAME/KEY: exon:intron junction
```
254 <222> LOCATION: (3316)...(3317)
255 <223> OTHER INFORMATION: exon 6:intron 6
257 <221> NAME/KEY: intron
258 <222> LOCATION: (3317)...(3743)
259 <223> OTHER INFORMATION: intron 6
```
W--> 261 `<221>` NAME/KEY: intron:exon junction
```
262 <222> LOCATION: (5075)...(5076)
263 <223> OTHER INFORMATION: intron 8:exon 9
265 <400> SEQUENCE: 10
266 tcccagtcct gtgcctgctc cccaccgctt cgttcacgag gcttgaatcc atcactgggc   60
268 gcggccatct tgcaacaata ccggaagttg cgctaacgct cttaaataag aacagcgcgg  120
270 cttctaatca caaatttcct tccggctgcc attttgaaag tgggccagga aatggagatg  180
272 acttgctgtc ttgcgctgcc ctccctggga gggcagcctt ccagaaaggg gcgggacttc  240
274 cgtatgcgcg attcctgtgc gcgaagttcg ggtccgtagt gggctaaggg ggagggtttc  300
276 aaagggagcg cacttccgct gccctttctt tcgccagcct tacgggcccg aaccctcgtg  360
278 tgaagggtgc agtacctaag ccggagcggg gtagaggcgg ccggcaccc ccttctgacc  420
280 tccagtgccg ccggcctcaa gatcagacat ggcccagaac ttgaaggact tggcgggacg  480
282 gctgccgcc gggccccggg gcatgggcac ggccctgaag ctgttgctgg gggccggcgc  540
284 cgtggcctac ggtgtgcgcg aatctgtgtt caccggtgag caacctccgc ctgctcgccg  600
286 gacgcttcca gtccctcccc caaacccctt gccctgtccc cgcgccctc cacgggccta  660
288 gcatttcctc tgagcagcgg cctggcctga tcaccaccca tctccccaca gtggaaggcg  720
290 ggcacagagc catcttcttc aatcggatcg gtggagtgca gcaggacact atcctggccg  780
292 agggccttca cttcaggtaa tggcgggcag agcctgctga ccctgacctt tcacccttga  840
294 cgccgaccca gcagtggcta tagtcggacg tgcaacagga ttcaacgctg ctctttccc  900
296 accctcctca tccctgcccc taggatagtg ggtgctgcga gaacctccag cagcatacaa  960
```

```
298 actgttgttt tccagaggga caagagaatc tctccttgtc tgtggtcgtg gagaggagca 1020
300 ggccaaaaaa cgcgtggtga ggggaaaccg ggcaaggcta gtgaaactgc ggccttttct 1080
302 ttttttttt ttggagaggg agtcttgctc tgtcgcccag gctggagtgc agtggcgcga 1140
304 tctcggctca ctgcaacctc cgcctcctga tttcaagcga ttctcctgcc tcagcctcac 1200
306 gagtagctgg gattacaggc gcccgccacc acgcccggct aattttgta ttttagtaga 1260
308 gacggggttt cactatgtag atcaagctgg tctcgaactc ctgacctcaa atgatccgcc 1320
310 cgcctcggcc tcccaaagtg ctgggattac aggcgtgagc caccgcgccc ggccgaaact 1380
312 gtggcctctt aataccatc cctgtcctct ccaggatccc ttggttccag tacccatta 1440
314 tctatgacat tcgggccaga cctcgaaaaa tctcctcccc tacaggctcc aaaggtaggt 1500
316 ctgagcactt ggtaatcaca tggcaggtgg gatgatcaag gtagctggca agaaacccca 1560
318 ggggaatatg gtagtgtcag gcctttaggc ctctttccac atctgcaaga gctgtaacaa 1620
320 aaatacctgc ctcctggggt caaagcagca aattctgaac acactgtgtt tgcgtgcttt 1680
322 ttactgtctc ctccctgacg tgtattcaat aagagtattg tttgtccctc gtcttgttca 1740
324 ctgcctagat caaagctttg ttttaaagcc ttttttttct aactgcttga cttactatat 1800
326 ctacagttac atccactagt acactctgtt ctggagaagt ttgtccctaa gcttgactag 1860
328 ttcacctgtt ctctccttct agaccataca taaaagccgt gcctttgagt tccccagacc 1920
330 tcttcctcct ccccacccac gcacacatat acaccctggg tcaggtagct cacctgtaac 1980
332 ctgtaatgta cttctttgtg ctatacctag tgcaggtcgc ttattcattt actagactgg 2040
334 gccctgggaa taaaagattc attaaacaca attcttgtcc cccaagtcct tacaggagac 2100
336 atgattacgg tacagcacga aagcgcccac gttagaggtt gcacagagta cagaggggga 2160
338 aagagtagtc agctctgctg gtgacggggt ttgcagttca aggcttcaca gtgggtgagg 2220
340 gtgcatttca gctgtgctgc gtcttgtctt ccttgtcagc ctgattaact ctcctccccc 2280
342 cagggtagtg ccaggctgta caccattgca cagggcatac agggaggaac atgaaggaga 2340
344 aaatgcttgg gaaagggtgt ttggccttga ccagccactg ctgacctcaa tctcagacct 2400
346 acagatggtg aatatctccc tgcgagtgtt gtctcgaccc aatgctcagg agcttcctag 2460
348 catgtaccag cgcctagggc tggactacga ggaacgagtg ttgccgtcca ttgtcaacga 2520
350 ggtgctcaag agtgtggtgg ccaagttcaa tgcctcacag ctgatcaccc agcgggccca 2580
352 ggtctgactc ccaccaccat ctgcgtggtg tcagcctttc cttcctaggc ccagagtatt 2640
354 gggaattagg aaaggcagct tattagaaaa gcattgtcac cctagtgcca tttccaccta 2700
356 aaagctgtgc taattgccac tgtgaaataa ggagagccag cattagaact cgatagcact 2760
358 cggtgttagg aagcacagag gaaaatggcc aagtcttggc ttttcctgca cctcttcgag 2820
360 cagagaggct tatgttacag gtttgcctga caggaagcta aggcagtgca tgttgtattg 2880
362 agagtgaagg gttagggtc gcaaccttcc tttcagctcc ccagtccct caaaccaccc 2940
364 ctcccttccc ctcttcaccc ctgccctcag gtatccctgt tgatccgccg ggagctgaca 3000
366 gagagggcca aggacttcag cctcatcctg gatgatgtgg ccatcacaga gctgagcttt 3060
368 agccgagagt acacagctgc tgtagaagcc aaacaagtgg gtgagtcgca agagccgtgg 3120
370 ggtgagggct tctgagatgc aggaggagga aagactccat gggtgggggct cctgacccag 3180
372 gacagggtct ccctgactct ctcccaccac agcccagcag gaggcccagc gggcccaatt 3240
374 cttggtagaa aaagcaaagc aggaacagcg gcagaaaatt gtgcaggccg agggtgaggc 3300
376 cgaggctgcc aagatgatat ccttctgctg gagagatctc agcccagccc ctaggcacc 3360
378 tgagttcccc attctccttc atgggcaggc tgatgagact aaggcgaatg cgactccgtg 3420
380 ctctctggcc cttggctcct tgttgggggt ggggactaca gatgagatct gaaatcttag 3480
382 tggtagtacc tgagccatga ctccccactg taaggccaga tcaatagcat tggtggcctt 3540
384 gccttcattt ctggtgctgc ccctagttcc tggcagcagc ctgcaggag gcccacaggt 3600
386 ggggtccacg gtagggctgg gcacaagcca cctgagcgca accttggatc tgacagccca 3660
388 gaggaggact ggagcaaggg agtgtggtaa ggacagggcc agggattgag acctgccctt 3720
390 gcgtgtacct taaccctcct caccttggag aagcactgag caagaaccct ggctacatca 3780
392 aacttcgcaa gattcgagca gcccagaata tctccaagac ggtgagtgtg tcagcccagc 3840
394 gtctctgatg gggctgcctt gagaaagtgc tttcagttaa ggcacattga ggtgagggaa 3900
```

VERIFICATION SUMMARY
PATENT APPLICATION: US/10/020,478

DATE: 01/07/2002
TIME: 20:32:08

Input Set : A:\pto.txt
Output Set: N:\CRF3\01072002\J020478.raw

L:10 M:270 C: Current Application Number differs, Replaced Current Application No
L:10 M:271 C: Current Filing Date differs, Replaced Current Filing Date
L:233 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:10
L:237 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:10
L:241 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:10
L:253 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:10
L:261 M:257 W: Feature value mis-spelled or invalid, <221> Name/Key for SEQ ID#:10